Claims

What Is Claimed Is:

1. A method for communicating information for a destination wireless apparatus that is operative to communicate in a wireless local area network (LAN)) and also operative to communicate with a wireless wide area network (WAN) comprising:

simultaneously transmitting same information for the destination wireless apparatus to a plurality of proximal wireless apparatus via the wireless WAN;

receiving the simultaneously transmitted same information by each of the plurality of proximal wireless apparatus; and

using the received simultaneously transmitted information from the plurality of proximal wireless apparatus as diversity information for the destination wireless apparatus to enhance the quality of received information for the destination wireless apparatus.

2. The method of claim 1 including the step of:

prior to using the received transmitted information, re-transmitting the received same information by each of the plurality of proximal wireless apparatus to the destination wireless apparatus using the wireless local area network.

3. The method of claim 2 wherein the step of using the received transmitted information from the plurality of proximal wireless apparatus as diversity information includes the step of combining the retransmitted same information, by the destination wireless apparatus, in a desired way using at least one of switch diversity combining and maximal ratio diversity combining.

4. The method of claim 1 including the step of determining which proximal wireless units will receive same information for the destination wireless apparatus.

5. The method of claim 1 wherein the step of simultaneously transmitting the same information via the wireless WAN includes using multiple CDMA transmit codes for the same information.

6. The method of claim 1 including the step of conveying WAN channel assignment to receive the simultaneously transmitted same information via the wireless LAN by the destination wireless apparatus, to each of the proximal wireless apparatus.

7. A method for communicating information for a wireless apparatus that is operative to communicate in a wireless local area network (LAN) and also operative to communicate with a wireless wide area network (WAN) comprising:

transmitting same information by the wireless apparatus to at least one proximal wireless apparatus via the wireless LAN;

re-transmitting the same information via the wireless WAN, by the wireless apparatus and by the proximal wireless apparatus;

receiving the re-transmitted same information by the WAN from each of the wireless apparatus and the at least one proximal wireless apparatus; and

using the received re-transmitted same information from both the wireless apparatus and by the proximal wireless apparatus to enhance the quality of received information for the wireless apparatus.

8. The method of claim 7 including the step of determining which of a plurality of wireless apparatus within the LAN are proximal wireless apparatus.

9. The method of claim 8 including the steps of:

receiving channel assignment information, by the wireless apparatus, via the WAN for the plurality of proximal wireless apparatus; and

conveying the received channel assignment information, by the wireless apparatus, to the plurality of proximal wireless apparatus to facilitate re-transmission of the same information to a WAN network element, via the WAN.

10. The method of claim 7 wherein the step of using the received re-transmitted same information from both the wireless apparatus and by the proximal wireless apparatus includes combining the retransmitted same information, by a WAN network element, in a desired way using at least one of switch diversity combining and maximal ratio diversity combining.

11. The method of claim 10 wherein the step of receiving the re-transmitted same information by the WAN from each of the wireless apparatus and the at least one proximal wireless apparatus includes receiving the re-transmitted same information from each of the wireless apparatus and the proximal wireless

apparatus via a same CDMA code and perceiving the same information as multi-path signals and combining the received re-transmitted same information using a RAKE receiver.

12. The method of claim 10 wherein the step of receiving the re-transmitted same information by the WAN from each of the wireless apparatus and the at least one proximal wireless apparatus includes receiving the re-transmitted same information from each of the wireless apparatus and the proximal wireless apparatus via a different CDMA code by a common network element using a plurality of RAKE receivers.

13. A wireless apparatus comprising:

a wireless WAN transceiver,

a wireless LAN transceiver,

a processing device, operatively coupled to the wireless WAN transceiver and to the wireless LAN transceiver, wherein the processing device is operative to:

receive, via the wireless LAN transceiver, re-transmitted simultaneously transmitted same information from a plurality of proximal wireless apparatus; and

use the received simultaneously transmitted information from the plurality of proximal wireless apparatus as diversity information for to enhance the quality of received information.

14. The apparatus of claim 13 wherein the processing device is operative to be designated as a re-transmission device wherein as a re-transmission device, receives same information, via the wireless LAN transceiver, for a proximal wireless apparatus and
simultaneously retransmits the same information via the wireless WAN transceiver as another proximal wireless apparatus.

15. The apparatus of claim 13 wherein the processing device is operative to use the received transmitted information from the plurality of proximal wireless apparatus as diversity information by combining the retransmitted same information in a desired way using at least one of switch diversity combining and maximal ratio diversity combining.

16. The apparatus of claim 13 wherein the processing device is operative to determine which proximal wireless units will receive the same information.